

## **REMARKS**

Applicants have amended Claims 1, 7, 10, 26, 39, 88, 95, and 96 herein to further clarify the subject matter being claimed. Enabling support for the amendments can be found in the application as filed (*See, e.g.,* original claims, and specification as filed, pages 15-16, paragraph [048]). Therefore, no new subject matter was introduced by the claim amendments. Reconsideration of the present application and allowance of Claims 1-4, 6-52, and 87-96 are respectfully requested in view of the amendments made and the following remarks.

### **I. Rejections under 35 U.S.C. § 103**

Claims 1, 7-9, 11-17, 19, 21-26, 36-38, 40-43, 45, 47-51, 87-91, and 93 were rejected under 35 U.S.C. § 103(a) as being obvious over Wunderbaldinger *et al.* (Bioconjugated Chemistry, 2002, Vol. 13, No. 2, pages 264-268). In particular, the Patent Office previously asserted that Wunderbaldinger *et al.* disclose that the Tat peptide directs enhanced clearance and hepatic permeability of magnetic nanoparticles (*i.e.*, Tat-CLIO (crosslinked dextran coated iron oxide)). The present Office Action asserted that the term "high affinity ligand" encompasses peptides. This Office Action also asserted that the Tat-CLIO nanoparticles have multiple Tat peptides per nanoparticle, and that Wunderbaldinger *et al.*, therefore, disclose a nanoparticle composition comprising a magnetic nanoparticle having a biocompatible coating and a targeting probe. The rejection is respectfully traversed.

The rejection is moot due to the amendments herein to Claims 1, 7, 26, and 87. Amended Claims 1 and 87 are directed to nanoparticle probes in which the targeting probe is selected from the group consisting of a nucleic acid probe, an antibody, an antibody fragment, and an aptamer.

The Patent Office bears the initial burden of establishing a *prima facie* case of obviousness. There must be a suggestion or motivation in the reference(s) to modify the reference(s); there must be a reasonable expectation of success; and the prior art reference(s) must teach all of the claim limitations. *See* MPEP § 2143. Here, the Patent Office has not met this burden because the cited reference does not teach all of the claim limitations. Claim 26 has been amended herein to clarify that the first magnetic nanoparticle probe composition is different than the second magnetic nanoparticle probe composition. Therefore, as discussed previously,

Claims 26, 36-38, 40-43, 45, and 47-51 all require that the claimed compositions comprise two different magnetic nanoparticle probe compositions for use in intracellular molecular imaging. Claims 26, 36-38, 40-43, 45, and 47-51 also require that both of the two different magnetic nanoparticle probe compositions have at least three required components: 1) a magnetic nanoparticle with a biocompatible coating thereon, 2) at least one targeting probe, and 3) an intracellular delivery ligand.

Wunderbaldinger *et al.* teach magnetic nanoparticles with only two of the three required components of the claimed magnetic nanoparticle compositions. Wunderbaldinger *et al.* teach the use of superparamagnetic iron oxide magnetic nanoparticles with a crosslinked dextran coating (*i.e.*, a biocompatible coating) and Tat peptides (*i.e.*, an intracellular delivery ligand) attached to the dextran coating. However, Wunderbaldinger *et al.* do not teach or suggest the use of the third required component – a targeting probe for the detection of a particular intracellular molecule or its expression levels. Therefore, Wunderbaldinger *et al.*'s nanoparticles do not render obvious the claimed nanoparticle probe compositions because Wunderbaldinger *et al.* do not teach or suggest the use of a targeting probe. Furthermore, Wunderbaldinger *et al.* also do not teach or remotely suggest the use of a combination of two different magnetic nanoparticle probes, each with a biocompatible coating thereon, a different specific targeting probe, and an intracellular delivery ligand. Moreover, even though Wunderbaldinger *et al.* do not teach or suggest magnetic nanoparticles with the three required components, Applicants have deleted herein the term "high affinity ligand" from Claims 1, 7, and 87 in the interest of furthering the prosecution of this application.

For at least these reasons, Wunderbaldinger *et al.* do not render obvious the presently claimed invention. Accordingly, Applicants respectfully request that the rejections under 35 U.S.C. § 103(a) be withdrawn.

## **II. Claim Rejections under 35 U.S.C. § 112, second paragraph**

The Office Action rejected Claims 95 and 96 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. In particular, the Office Action asserted that it was unclear the exact ligand sequences being claimed. This rejection is moot as Claims 95 and 96 (as well as Claims 10, 39, and 88) have

been amended to clarify that the intracellular delivery peptide is selected from the group consisting of the peptides disclosed in SEQ ID NOs:2-26.

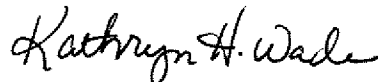
Applicants respectfully submit that the claims as amended particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Accordingly, Applicants respectfully request that this rejection under 35 U.S.C. § 112, second paragraph, be withdrawn.

### **Conclusion**

Applicants believe that the present application, as amended, is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The foregoing is submitted as a full and complete response to the Final Office Action mailed August 6, 2007.

No fees are believed to be due at this time. However, the Commissioner is hereby authorized to charge any fees due or credit any overpayment to Deposit Account 19-5029 (Ref. No.: 17625-0058). In addition, if there are any issues that can be resolved by a telephone conference or an Examiner's amendment, the Examiner is invited and encouraged to call the undersigned attorney at (404) 853-8000.

Respectfully submitted,



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**Dated: September 20, 2007**

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SAB Docket: 17625-0058